THE OLD TIMER'S BULLETIN

OFFICIAL JOURNAL, ANTIQUE WIRELESS ASSOCIATION

Published for the Old Time Wireless Operator, Historian and Collector

Vol. 4 AUTUMN 1963 No. 3

First National Get-Together

'Link' Cundall, W2QY, demonstrating early equipment at the 'meet'.....

Amateur historians and collectors with their wives assembled from 15 different states at Holcomb for the first meet on Aug. 16 and 17. Those attending the greatest distance flew in by plane; however, W4AA (North Carolina) and W9CF (Illinois) came by car.

The early 'birds' were entertained Friday night by a 16 mm. movie taken many years ago of the old German installations at Tuckerton and Sayville and the Marconi stations at New Brunswick and Marion as they were under the RCA administration.

Saturday started at the nearby New York Annual Steam Pageant. Having the 'gang' attend this affair was a suggestion with mix feeling since there was no tie-in with radio. Much to our surprise, everyone appeared to enjoy themselves in spite of the noise and smoke !

Under a threatening sky, the 'meet' got underway at 3 P.M. when President Batterson welcomed the group and turned it over to W2ICE who acted as M.C.

W2QY briefly demonstrated several pieces of early equipment including a 1912 transmitter using an E.I. electrolytic interrupted. A 1908 Marconi magnetic detector was connected to an antenna and ground (no tuning inductances or capacitors) and fed into an audio amplifier. One could hear faintly a Rochester broadcast station on a 260 meter wave 25 miles away and heavy static from a nearby electrical storm. This same hookup received LW NSS 450 miles away away the night before.

Report by Historians and Collectors

The 'keynote' of the afternoon was given by Ralph Batcher, Pres. of the Radio club of America. He stressed the need to authenticate and catalog historical equipment. Ralph was followed by Jimmy Burns (Chairman, Veteran Wireless Operator's Assn.,Washington), Roland Bourne, W1ANA (Curator, ARRL

Museum), Frank Davis (Curator, Ford Science Museum), Ed Raser, W2ZI (Historian. O.O.T.C.), Ed Redington, W4ZM (Washington Chairman, Q.C.W.A.), Will Andrews, W2ONE (Historian, Morse Telegraph Club), Bob and Nancy Merriam, W1NTE (New England Wireless Museum) plus many individual historians and collectors.

Although most of the collectors present were radio amateurs - many were not. Non-amateurs from out of the state included Gene Kerns (Wisconsin), Fred Penard (Mass.), Bob Shaw (New Hamp.) and Bill Laverty from Pennsylvania. The reports given covered all phases of historical radio, collecting and museum activities Lack of space prevents a detail breakdown; however, the entire proceedings was tape recorded for those interested.

As a finale, the group adjourned to a nearby Inn, the "Holloway House". Here they had dinner (over attendance, unfortunately separated the XYLs from the OMs) and the pleasure of seeing and hearing about Ed Raser's historical key collection - the finest in the country.

The final speaker was Lloyd Espenschied, pioneer amateur and Charter Member of the I.R.E. Lloyd started by making a formal presentation to the A.W.A. John V.L. Hogan's original W2XR experimental transmitter which had been recevied from W2TUN, John Hogan Jr. As a professional, Espenschied warned the group to read and search with care as they develop historical material He urged the amateur historian to develop insight to separate fact from fiction as they read biographies, for there were both "knaves and heroes" in the early days of wireless.

The affair was termed a success and hopes were expressed that similiar meets would be held annualy. Frank Davis offered the facilites at Dearborn and Bob Merriam the New England Wireless Museum for a meet...more on later....sk

A.W.A. SCHEDULES		
Sunday:	11:00 A.M.	7220 kc.
	4:00 P.M.	7220 kc.
Monday:	7:00 P.M.	3945 kc.
(Either SSB or AM)		

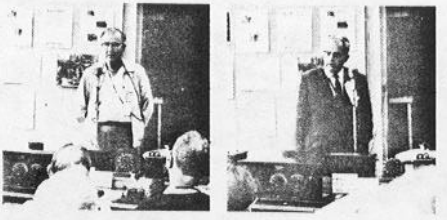
SILENT KEY - EMIL J. SIMON, 74, pioneer inventor of airplane radio equipment and founder of the old Intercity Radio Telegraph Co., Sept. 14, 1963 (Lou Hardy)

PROMINENT GUESTS AT MEET

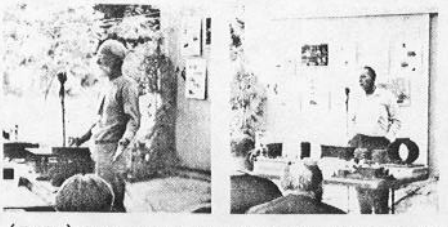
Left to right: Ralph Batcher, Pres. of the Radio Club of America. Lloyd Espenschied, pioneer inventor with Telefunken, United Wireless and Bell Labs. Roland Bourne (W1ANA) Curator of A.R.R.L. Museum and Frank Davis, Curator of Ford Dearborn Science Museum.

fotos by Ted Duvall

(Left) Kelley, Secretary of A.W.A., gets the 'ball rolling'. (Right) Earl Young, Electronic Engineer talks about vacuum tube history.

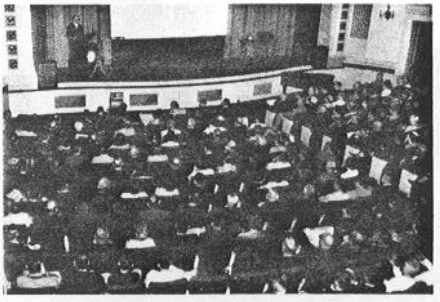


(Left) Thorn Mayes, W9AX, describes his recent construction of spark transmitter. (Right) Frank Wingard, W9EWH, Attorney, discusses legal problems of historical clubs and their collections.



(Left) Bob Shaw, New Hampshire collector and historian and collector reviews his visit to West Coast collectors. (Right) Cmdr. Jim Jones, Washington Chairman of Veterans Wireless Operators Assn., talks about old time operators in the service.

SPEAKERS AT 1963 OLD TIMER'S NIGHT
Ford Science Museum, Dearborn,Mich.
Left to right: Bruce Kelley, W2ICE (A.W.A. Secretary), Herbert Hoover Jr., W6ZH (President of the ARRL), and Bill Halligan, W9AC (President of Hallicrafters).



A.R.R.L. President Hoover delivering main speech at Dearborn OT Nite....

SOUTH WELLFLEET - the next OTB will carry a complete story on the recent celebration of 'ole "CC". Fred Parsons has dug up some extremely rare photos showing the INTERIOR of the station. In addition, we'll have photos of the new memorial

DEMPSEY-CARPENTIER - a historical milestone in early radio broadcasting. The story on this early broadcast will appear shortly in "73" magazine by A.W.A. historian Frank Whitmore, W2AAA. Material of this type is 'ole stuff for Frank...he is now whipping up one up on the MacMillan Expedition.

WEST COAST SCOOPS MID-WEST - our 'spies' tell us that a certain West Coast collector moved into the mid-west just long enough to haul away a couple truck loads of old gear from a certain 'museum'.....

ANTIQUE CAR section of the Aug. 17 "Steam Meet" provided W2IA a used Ford spark coil for only $1. George was told that Model 'T' owners could purchase new ones from an automotive supply house for $4.00....so if you want to go back 50 years here is the address:

Hank's Vintage Ford Parts
P.O. Box 568, 4th and Elm Streets
Quincy, Ill.

WESTERN ELECTRIC - I would like to correspond with fellow historians and collectors who are interested in early Western Electric equipment - gear, catalogs, manuals and circuits....
Curtiss Schafer, R.F.D. #1
Newtown, Conn.

QCWA CHAPTER recently formed in Baltimore has kept W3QA and W3GR quite busy.

WEST COAST TRIPS - two New Englanders, Selwyn Blake and Bob Shaw had the proverbial "red carpet" laid out for them by the "gang" on the coast. Selwyn's trip also took him to W5VA (Frank Davis) at Corpus Christi as well as Howard Pyle, Vance Phillips, Lou Moreau and Warren Green - all top collectors.. Bob's itinerary included an opportunity to see the fine collections of Floyd Lyons and Erv Rasmussen..

NEW GEAR AT A.W.A.

Transmitters - W2TUN, W8DHF
Receivers - ex-3DW, K2OPC
Tubes- W8JDV, Bill Laverty, Earl Young, Howard Schrader, W1WI
Meters- W2CE, W2ONE, W2OZR
Key - W2CE
Printed Material- W2AE, Bob Shaw and Peter Rossmann
Condensers- W2IIE, W9CF,Morgan Rich
Telegraph Instruments- WA2KND
Microphones- ex-3DW, W8JYL
Misc. gear- W2ETY, K2EE, Peter Borsi

A.R.R.L. BUILDING FUND

The A.W.A., by approval of the Board, recently made a contribution to the A.R.R.L. in response to the Building Fund appeal. A new headquarters building is being erected, and as an affiliate organization, the AWA is supporting the project.

Lincoln Cundall, W2QY
Treasurer

HAM TICKET - after 43 years of radio activity, Ted Woolner (Worcester,Mass.) finally decided to get a 'ham' license. He is now WA1ABP...Congrats Ted !

W9AX/EGYPT - Thorn Mayes recently retired from G.E. and plans to spend the next several months in Europe visiting historical radio sites and museums. For a complete switch, he will finish his itinerary with a trip to the upper Nile where he will watch them raise the ancient Pharaoh monuments to a higher level - a need since a new dam will ultimately submerge the present site.

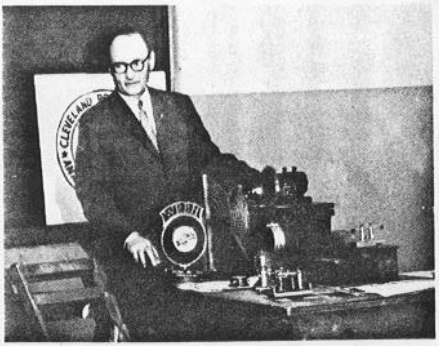
GRANVILLE, OHIO - if you plan to be in the area, make an appointment with Dick Howe, W8CBN, to see the fine collection of historical equipment at Denison University. Dick recently retired from the school's Engineering Department; however, he retains an interest and remains in charge of their unusual collection of radio and electrical gear.

NEW HISTORICAL TAPE was recently made of George Keegan, early pioneer who had numerous adventures at the turn of the century The most amusing was the time when as a Postal Union Delivery boy he was pressed into service as a "wireless operator" at the 1901 Pan-American Exposition in Buffalo.

NEW ENGLAND WIRELESS MUSEUM - at East Greenwich, Rhode Island, will be wide open to the historian and collector starting next spring. The building will be divided into three sections including several 'mock' setups' of early wireless installations. Selwyn Blake and Lou Rizoli are helping the Merriams on the 'amateur' project. More info on times to visit, etc, will appear in the spring OTB.

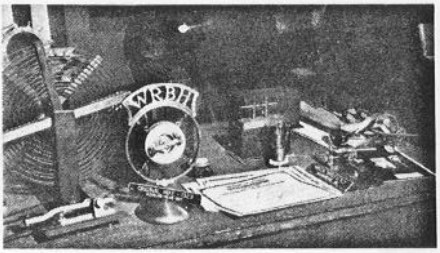
PERHAM FOUNDATION - W6YPM had the task during the summer of working for the Dept. of Education, State of Calif., inventorying and cataloging the Perham collection It is good to know that a qualified person was selected for the project So frequently one totally unfamiliar with the subject gets the job. Erv,by the way, attends most amateur gatherings on the coast which he sezs pays off. At a recent A.R.R.L. Convention he picked up some early call books and a near complete set of "Pacific Radio".....

NEW ELECTRONIC MUSEUM - land has been purchased and ground work is now underway for a $15 million Electronic Museum between Albany and Schenectady, N.Y. It is a private enterprise and NOT associated with nearby General Electric. Unfortunately, it will be more of a 'Disneyland' setup with push button demonstrations and a minimum of historical material....



CLEVELAND "OT" NIGHT

Ellis Smith, W8QV, giving a talk at a recent meeting of the Cleveland Police and Fire ARC. The high point of the program was when Ellis 'fired' up the 1/4 kw spark set seen at the right.



Some of the gear on display by W8QV. Nice stuff - particularly those two keys ! (fotos from Mike Bakos,W8LY)

WESTERN UNION TELEGRAPH TABLE of 1914 vintage complete with all instruments was recently donated to the club's museum by Harold Smith, WA2KND, W.U. Wire Chief. Wiring an old omnigraph in the circuit provides a certain amount of realism to the visitor even though the discs are not Morse...

HISTORICAL RESEARCH: Tom Appleby,W3AX, is building up info on Dr. Mahlon Loomis. He tells us that Mary Texanna Loomis was NOT directly related to the good 'Doc' who took out a patent on wireless July 30, 1872.

Mary passed on June 7, 1960 in Massachusetts; however, Tom had an opportunity to interview Loomis' grandson back in July. He is a retired radio engineer from Bell Lab....

Along the same line - George Applegate, W2IA, is working on the history of Dolbear, an early pioneer not many are familiar with....and Pete Rossmann is currently building up info on Clark of 'Clark Wireless (Great Lakes) fame.'

NEWS FLASH ! ! !

Our club now has a station license - the ANtique call is w2AN.

This license is based on a two letter call originally issued to our local club many years ago.. W2AN will be on the air sometime this winter. All components in the transmitter and receiver will be 40 or more years old and designed for the old 200 meter band of course. By lowering the wavelength slightly it will tune the present 160 meter band and we hope it will double to 80.....

Remember - when working W2AN - do NOT use breakin and give a long call at the beginning and ending of each transmission.... antenna and all power switches have to be thrown manually and there may be the need to re-tune you in after each transmission due to the UV-201 regenerative detector.

We're designing a beautiful QSL card of the 1920's to confirm each QSO.

73, Geo. Batterson, W2GB

"OUTLOOK FOR TELEVISION" by Orrin Dunlap (written in 1932) is an excellent book for the TV historian. Orrin appears to have done a lot of research when writing the book and it should be of great value to one interested in the art up to 1932... Printed in the depression years - it is a hard one to find.(tnx to Fred Penard)

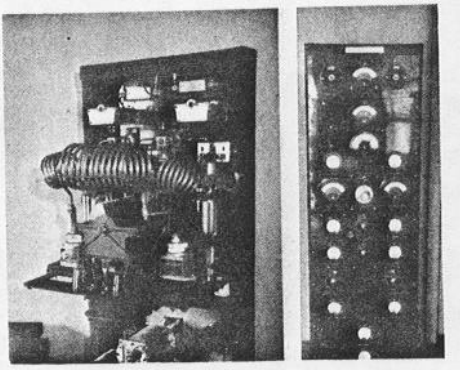
DE FOREST/KEY WEST -a newspaper clipping from Lou Hardy tells us the building that housed 'ole DeForest station "KW" at Key West (built in 1903) is being converted into a LIQUOR BAR !! Although the range of this pioneer station was normally but a few hundred miles it was was sometimes heard by operators in the Great Lakes.....

SAYVILLE- see V.W.O.A. News in August '63 "Wire and Communication" magazine for a top story on 'ole Sayville by OT Felix Schleenvoight. One of the best 'experience' stories with excellent technical 'info' we've read in a long time.....

BATTERY WTAM - this early 1000 watt broadcast station went on the air in Cleveland, Sept. 26, 1923 using 2500 volts of storage batteries for plate supply ! - - the only high power station of its kind in the country.

PUSHPULL 204A FINAL AT W5VA

We believe this is one of the very few old time hi-power transmitters left in the country. Frank sezs it was built on 1930 and it is ready to go on the air at anytime. We now have a list of 5 stations with equipment over 30 years old. Lets hear from more and we'll have a round table on 80 CW sometime this winter..



JOHN V.L. HOGAN/W2XR/WQXR - the original W2XR transmitter used by John Hogan while experimenting in hi-fi was recently presented to the A.W.A. by his son W2TUN, John V.L. Hogan Jr. While operating the experimental station W2XR (1934) he created a great demand for high fidelity music. This lead to WQXR - New York's first hi-fi station.

The transmitter was formally dedicated to the club by Llloyd Espenschied. We're told that John had a fabulous career - laboratory assistant to Lee DeForest in 1906-07, he worked for Fessenden at Brant Rock, a co-founder of the I.R.E., participated in the acceptance tests at NAA in 1913, etc. The A.W.A. is indeed fortunate to have this historical piece of equipment in its amateur museum.

GERNSBACK - by now most of you have gently removed and filed the several pages from your July 26 issue of LIFE magazine concerning Hugo Gernsback... "Zip" Jones tells us that Hugo sent him autograph copies of his "RALPH - 124C 41" series some years ago. These copies should prove valuable Zip...and Ted Woolner points out the author neglected to mention the famous E.I. 10¢ detector !

REMINDER- YOUR DUES MAY BE COMING UP FOR RENEWAL...WE ONLY SEND OUT ONE NOTICE....SEND $2.50 TO W2QY.

The Spirit of Hallicrafters

by Harold Charvat, K9BPO

Bill Halligan, W9AC of Hallicrafter fame, became interested in 'wireless' around 1913 when he and several friends traded books on the subject and gathered together to practice code. Like others of the area, he copied the old Marconi South Wellfleet station to gain code proficiency. Bill at this time used receivers of his own design, winding coils on cardboard tubes. His spark transmitter was one of those that created havoc at the nearby Boston Navy Yard Station!

Halligan obtained both his commercial and amateur licenses in 1916, the year he graduated from high school. His 1916 call was 1AEH and later 1UL. The next couple of years found Bill sailing as a commercial wireless operator on American coastal and deep sea vessels. During World War 1 he sailed on a mine layer on the North Sea off the coast of Scotland.

Upon his return from active duty, he decided to obtain more engineering knowledge and enrolled in Tufts College. Later, he believed West Point offered the type of engineering he particularly wanted. He therefore applied, took the examination and won admission to the Point. After graduation - and marriage, Bill took a fling at journalism by originating one of the first newspaper radio columns in a Boston paper. Being an amateur, he defended the 'ham' in his columns against the new listening public of the early '20s. His patient explanation of the matter to the public was the first attempt at educating the masses in electronics.

Following his experience in the newspaper business, W9AC joined Tobe Deutschmann as Sales Manager. Mr. Deutschmann was importing radio suppies from Germany. Bill eventually took over control of the company while Deutschmann concentrated his activities in expediting material to the U.S. from Germany.

Halligan than moved to Chicago to start a business of his own because he was convinced Chicago was to become the capital of the electronic industry.

By this time, Radio Corporation of America had become the owner or controller of a large pool of radio patents in the U.S. At the sole discretion of RCA, a manufacturer could be licensed to use circuits and other electronic patents held by RCA.

Halligan was not among the group who enjoyed this license and had to devise other means of developing his ideas. He would design his receivers, draw his schematics, pick up his order pad and sell receivers to the radio stores. After he had sold 50 to 100 units, he would commission the manufacture to a company holding an RCA license !

After many attempts to obtain a license, many of which were costly and embarrassing, he met Ray Durst. At this time the Echo-Phone Company was in financial trouble - but it held an RCA license. Halligan bought the company and the combination of Halligan and Durst became unbeatable - Bill the master salesman keenly aware of the needs of the amateur radio operator and Ray - the hard headed business man and administrator.

W9AC's philosophy in amateur equipment has been from the first to make it smaller, better and less expensive. The pre-war HT-4 transmitter and the SX-28 receiver were the fruits of this philosophy and the keystone of

Hallicrafter's program for the amateur. At the onset of World War II, the military communications system was in urgent need of a powerful transmitter in a small rugged package. Their foresight provided this unit and many were to follow. The SCR-229, the SCR-399 and the BC-610 are now famous in the communication annals of the war.

The period after WWII was probably the most difficult in the company history. Halligan manage to stay in business by sticking to his pre-war philosophy concerning the amateur radio operator. He designed and built receivers and transmitters exclusively intended for this market, beleiving that amateur radio operators would begin to increase in large numbers. His decision was amply justified over the years since the war.

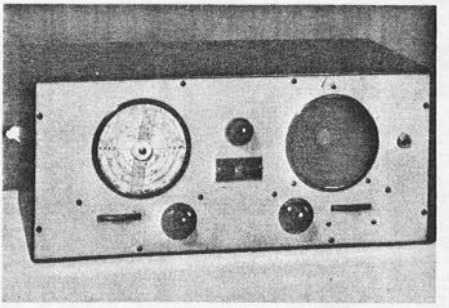
As Bill continued to search for new markets for electronic equipment, he moved into home radio and television manufacturing. But in 1959 he finally left this market due to his unwillness to produce equipment which did not meet the high standards he had set for Hallicrafters - standards which forbid his competing economically with the competition of the time.

A crisis in the post-war marketing situation was reachedin the fall of 1957 when Halligan sold the company to Penn-Texas, a holding company. While he gave up ownership of the company, he retained management. Then, a new era in Hallicrafters began the following year when he bought control of the company back from Penn-Texas and instituted modern control, quality control and quality manufacturing procedures.

The company is today the principal contractor of the U.S. Air Force program entitled 'Quick Reaction Capability'. Essentially, QRC is an open-end contract between the Air Force and Hallicrafters by which the Military agency is able to fill an urgent defense need without the usual long lead time for conventional engineering and development. Hallicrafter engineers are able to respond to telephone calls, for instance, with proposed designs and solutions in a matter of days and sometimes even hours.

Most hams who have an occasion to need quick service from Hallicrafters know where this Quick Reaction Capability got started ! With a burned out output transformer 24 hours before a contest is starting, a telegram to W9AC -plus air mail- always got you back in business before the whistle !

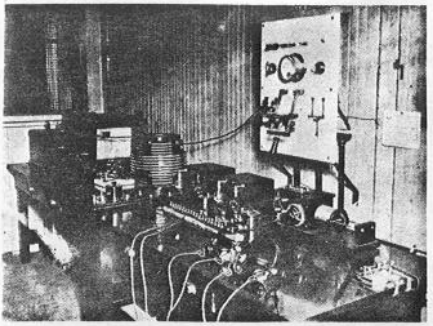
Hallicrafters today is managed by Bill's son, Bob Halligan as Chief Executive Officer, while W9AC remains Chairman of the Board. Under Bob's direction, the company has subsidiary companies on both coasts and an associate company in the mid-west. It is also engaged in establishing strong research and development relations with Mid-western universities. The Hallicrafter Co. is a key supplier to all military defense agencies, contract manufactures Lowery organs and has recently moved into the citizens band field while retaining its leadership in amateur radio and shortwave listening.



An early Hallicrafters receiver manufactured for Bill Halligan by the Silver-Marshall Co. of Chicago.

The company has contributed many firsts to the industry, not the least of which was the innovation in the appearance of electronic equipment doing away with the black crackle and engrave panels and putting a sparkle into the looks of things. Other first were the calibrated 'S' meter, a dual diversity receiver, an automatic noise limiter, a temperature compensated H.F. oscillator, a battery portable all wave communication receiver, a dual A.V.C. system, a bridge tee notch filter and the first commercial production of an electronic keyer using digital techniques.

Bill lives high up over the Chicago Lake front and continues to operate W9AC. Never a conformist, Bill's antenna is specially designed dipole - seven floors BELOW him on the roof of the Drake Hotel ! He operates 40 and 20 meter CW and occasionally he can be found on 20 meter SSB. Bill currently holds the calls W9AC and W4AK. In the past, besides 1AEH and 1UL, he held W9WOE and W9WZE.....



School Station 8TM in 1916

TEACHING WIRELESS FROM 1915 TO 1917

by OT Walt Weber, K2EE, ex-8TM, 8JJ

The first wireless class at the Seneca Vocational School at Buffalo, N.Y., started in the school year of 1915 to 1916. This class was the first of its kind in the U.S. There were some 30 students enrolled.

The students became familiar with the theory of wirless by handling and building equipment. They assembled the entire equipment for 8TM which was licensed under my name. It consisted of a 1 KW 200 meter transmitter using a 12" helix, 'coffin' and rotary spark gap.

The receiver was a loose coupler, tube detector and two stage audio amplifier all using DeForest audions with the candelbra screw base. This was considered 'tops' at that time. The students, of course, built crystal sets for their own use.

In 1917 to 1918, a training program was started for the training of radio operators for the Great Lakes Training Station at Cleveland. The classes were well attended and a big success.

(Ed. note: This may be the first amateur station setup in a public high school for training purposes. Walt can be heard regularly on 75 meter phone - a real OT, he is looking toward his 82 nd birthday !)

ELMER BUCHER "I opened up my first amateur radio station at North Ridgeville, Ohio. in 1900 and in 1901 successfully transmitted messages a distance of 7½ miles ! On Nov. 6, 1903, I joined the DeForest Wireless Telegraph Co. of America which in 1906 became the American DeForest Telegraph Co. and the following year (1907) the United Wireless Co...." (portion of a letter written to W3AX by Elmer Bucher who now lives in New Jersey.)

ANNUAL FALL MEETING

The Annual Meeting will be held Saturday, Nov. 16, 1963 at 8 P.M. at Jack Armstrong's K2JA, Thornell Rd., Pittsford, N.Y. Business meeting and entertainment.

W2GB, President

BRONZE GEARS for old Stromberg-Carlson Models 501 and 601 may be purchased from the Boston Gear Works for $6.50 each or $13.00 a pair (Frank Pagano).

PANORAMIC RECEIVERS (Hallicrafter/Singer) made about 18 years ago are becoming a collector's item; however, K2DZ still uses one.. In fact, Perce says he would be lost without it when operating in local nets.

GEISSLER produced his first vacuum tube in 1857.....

SAGA OF THE VACUUM TUBE

By popular request we print the entire list of magazines (Radio News) covering Gerald Tyne's history of the vacuum. The list was supplied by Jack Gray, W8JDV.

No.	Month	No.	Month
	1943		1944
1	March	9A	January
2	April	10	March
3	May	11	April
4	July	12	June
5	August	13	September
6	September	14	November
7	October		1945
8	November	15	January
9	December	16	March
	1946	17	May
21	February	18	July
22	April	19	September
		20	November

AUSTIN PARKHURST - (name mentioned in our last OTB) turns out to be very much alive and living in Washington, D.C. according to several of our members. Austin had a colorful career including the job of installing the old United Fruit Station on Swan Island.. more on this fellow later....

TAPE RECORDING of Historical Meet held Aug. 16-17, 1963..... Listen to the views and thoughts of 12 different collectors, curators and historians..1 hour of recording (1/2 track) on first class tape. Send $2.50 to B. Kelley, Main St., Holcomb, N.Y.

ANTIQUE WIRELESS ASSOCIATION

A.R.R.L. Affiliate

An amateur organization interested in the history of early wireless...

Annual dues: (including the "Old Timer's Bulletin", Certificate and other benefits) - $2.50 per year payable to Club Treasurer-

Lincoln A. Cundall, W2QY
69 Boulevard Parkway
Rochester 12, New York

"OLD TIMER'S BULLETIN":

Editor: Bruce Kelley, W2ICE
Main Street, Holcomb, N.Y.
Publishing Editor: Larry Triggs, W2YBK

ZINC CASTINGS - Frank Pagano has made an extensive study of various types of castings used in early broadcast sets of the 20's. As some of you have noted - the condensers, etc, used in many of these early sets have "froze" due to high zinc content. Babbit or tin metal bases, although excellent, were seldom used. As an example, Atwater Kent finally switched from zinc to brass pulleys because of poor results.. What to do about 'frozen' or warped castings ? better see a metallurgist !

A.R.R.L. MUSEUM VISIT is a 'must' for the amateur historian. W1ANA is receiving full co-operation from the 'gang' at headquarters and is concentrating 99% on amateur gear which will be displayed in glass show cases. An interesting exhibit will be a replica of the Reinartz/Schnell xmtr used on the first trans-atlantic QSO.

"ELECTRIC WAVE TELEGRAPHY" by J.A. Fleming (book) was finally obtained by Tom Appleby from Vance Phillips..

CANADIAN TRIP by Ed and Pauline (W2ZI) included a stop at OT Tom Letts,VE2BG, who showed Ed 3 versions of the Fleming valve..their safari also included a visit to the Glace Bay site ("GB") and the Alexander Bell Museum...

LCM - the high power longwave station at Stavenger, Norway, was opened for trans-atlantic work in April, 1918...

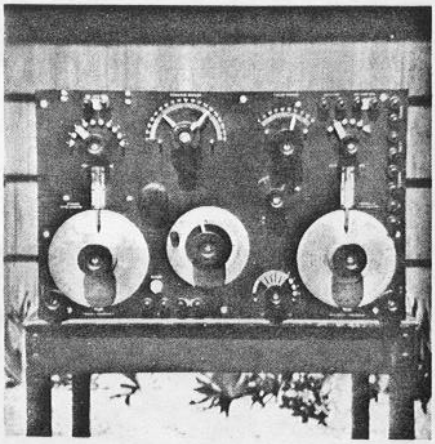
215 - many of these W.E. 'Peanut tubes' are now available from surplus houses at the low price of 25¢ They are a late version made in the '30s The original design (and hard to find) employed a small coil spring hooked to the top of the filament to keep it taut.(W2IA)

FESSENDEN MEMORIAL - there is now a move to build a memorial to Prof. Reginald Fessenden on Roanoke Island where the famous pioneer inventor perfected wireless telephony over 62 years ago.

The Fessenden Memorial Assn. was organized in 1941 and now has 25 active members - many of whom are radio amateurs. The group has purchased the land where Fessenden's laboratory stood and from which he transmitted phone signals to King's Point, Hatteras in 1901-02 (We would like more info on this subject - please keep us posted es tnxs to Bruce Boyd, W3QA)

LINE INSULATORS from the old Transcontinental Postal Telegraph System are now in the club's museum A gift from Warren Green, W7JV, they were originally in the Seattle-Spokane circuit This section had 5 circuits one of which had unusually heavy copper wire eliminating the need for a repeater over the 300 mile stretch. Warren recalls using the circuit in the old days for BC work when he was with KHQ-KGA.

TV HISTORIANS - work fast - the early postwar TV sets are rapidly disappearing - particularly the RCA Projection type as well as some of the small 6" and 7" screen jobs.



NAVY SE-95A LONG WAVE RECEIVER

This beautiful receiver was recently acquired by W2ZI. It has a range from 1000 to 10000 meters and bears the serial #19. It was made at the Washington Navy Yard in 1917. Like most gear in Ed'd collection is has historical background - it was used by K.B. Warner to copy MUU broadcast on the results of the ARRL Trans-atlantic tests of 1921.

ARMSTRONG-August. 1963 issue of the "Proceeding of the IEEE" has a reprint of Maj. Ed Armstrong's original article on the regenerative circuit as presented to the I.R.E. This report launched the famous Armstrong-DeForest battle which was fought in legal courts for so many years.

A NEW SECTION has been set up in the A.W.A. Museum for gear of the 1930 and 1940 era. The move was spurred by the gift of a complete BC-375 transmitter with tuning units from Al Stewart - W8DHF....and early National receivers from Russ Worthy.

NOTICE: We now have a Zip Code Number. It is 14469.

I am over a month behind in replying to letters as a result of a lengthy vaction...sorry..however, keep writing with news items, photos for the Bulletin, ads, etc.

73, Kelley

Bruce Kelley, W2ICE
Main St.,Holcomb,N.Y.
Zip 14469

"CANST THOU SEND LIGHTNINGS" is a terrific LP recording made a few years ago as a tribute to telegraphers - past and present This recording with a historical booklet is still available. It was advertised in QST for a short time. If you want a complete library - better order a complete set for only $2.50 There is also some fine wireless history as well as excellent morse signals on the recording. Send check to:
J. Ralph Graham, W4RJX, 5927 Dryden Drive, Mc Lean, Virginia

PARAGON RA-10 with 2 step amp and 10RF unit in top condx is a new piece of gear for Bill Laverty....

FLEWELLING - another book 'pops' up with an interesting owner's signature. Morgan Rich recently acquired a Signal Corp book (1921) which was once the property of Edward Flewelling, prominent radio circuit and set designer of the '20s. We note that Flewelling resided in his later years in the small town of Ashbeeruham, Mass.

ATWATER-KENT - who will be the first collector to have a complete collection of Atwater-Kents ? - from the first breadboard to Model 67 ? Frank Pagano has a good start - he lacks only a couple to complete the entire series !

OLD TYME ADS

Each member is entitled to an ad per issue. All material must be over 25 years old.

SWAP- Grebe CR-5 plus cash for Kennedy 110. Also want W.E. 4-B superhet monitoring recevier.
Bill DeWitt, W2VZV
2112 Turk Hill Rd.,Fairport,N.Y.

WANTED -pre-1930 books, magazines and catalogs. Swap or cash. Have lots of old parts, sets and books.
B.B. Paine. RFD #1, Concord,N.H.

WANTED- 1919 to 1928 Radio News and Radio Broadcast magazines. Will trade up to three for one on issues I need. Want Radiola VIIB, AR and AT units for RADA and AA-1520 unit for Radiola V. Also Grebe,Federal,Kennedy and Zenith. Paul Thompson,
1300 S. Main, Las Vegas, Nevada

CASH PREFERRED but will swap- Grebe CR-9 (excellent condition), Colin B. Kennedy Shortwave Receiver with two stage amplifier, several copies of Bucher's "Practical Wireless" (1917). Want- Marconi 107-A or 103 type receiver-tuner and IP-76.
Frank Shannon, W3QR
1500 Massachusetts Ave.,NW,
Washington 5, D.C.

WANT- Armstrong licensed regenerative receivers made in early twenties. Also need runs of "Popular Radio" and issues of "Radio News" 1925 and earlier.
J.A. Worcester, RD #1
Frankfort, N.Y.

WANT- Western Electric microphones, speakers, amplifiers, tubes, and monitoring receivers; also W.E. and RCA Photophone theatre sound equipment. Curtiss R. Schafer, RFD #1, Newtown, Connecticut

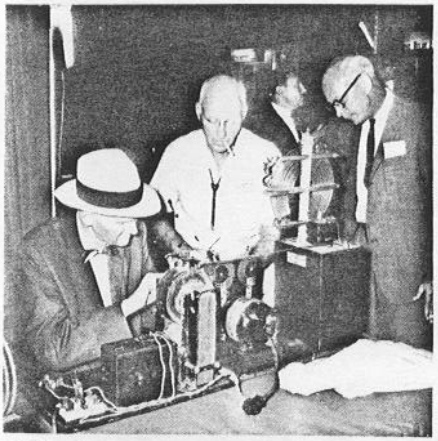
WANTED INFORMATION - on where I can obtain a list of current longwave stations and wavelengths..very much appreciated. Bud Fischer,
14 Mohawk Trail, Westfield, N.J.

EXCHANGE SWAP LISTS - have all kinds of parts, gear and books, Kennedy XV receiver, WWl Aircraft receivers,etc. Want oscillation transformer for a 1 KW spark transformer. Warren Greene, W7JY, 7202N, Mercer Way,
Mercer Island, Washington

JACK GRAY MUSEUM was the site for the summer meet of the Greater Cincinnatti Amateur Radio Assn. Close to 200 members filed thru Jack's amateur museum and admired the old gear - and of course, those 'ole Grebe receivers..

A.W.A. EXHIBIT AT CONVENTION

W2LF, A.W.A. Director, is seen holding the fort at the Club's exhibit at the recent ARRL Atlantic Division Convention in Washington. Our display was set up by President George Batterson, W2GB, with the help of Ted Duvall, X-3DW. About 15 A.W.A. members attended. Below, W2AB, W2GB and X-W2BEN examine W2AB's KW transmitter.



RADIO CLUB OF AMERICA - President Ralph Batcher has appointed Harry Houck to investigate means of preserving and identifying historical equipment. The club realizes that much historical material is rapidly losing its identity or just plain disappearing. We are now on the threshold when many early pioneers are leaving us. EVERY piece of equipment which has ANY historical background should be tagged and authenticated. There are 3 groups: 1.) Equipment used at famous stations, 2.) equipment used by famous people, and 3.) early development material. Harry has a challenge. The answer may be a master catalog listing the material of all amateur and civic museums....

CRYSTAL DETECTORS

by George Applegate, W2IA

In 1874, Ferdinand Braun, of Germany, made a report revealing unilateral conductivity effects he had discovered in devices employing small contact areas between metals and various oxides and sulphides. In 1901, Braun experimented further with a view to adapting these discoveries to the detection of wireless waves. Among other substances, he used Galena and Iron Pyrites. Braun suggested to the Telefunken Company that work be undertaken on a crystal detector employing a substance called "Psilomelan," a complex mineral containing oxide of manganese. This detector was brought to about the same degree of sensitivity as the currently popular Electrolytic Detectors.

In 1906, H.H.C. Dunwoody, a retired U.S.Army General, invented the Carborundum Detector. In his first models, Dunwoody made connections to the opposite ends of the crystal by wrapping wires around it. In other models, the crystal was inserted between two parallel metal plates. Dunwoody found that the Carborundum Detector functioned either with or without a local battery, but was somewhat more sensitive with the battery.

Later in the same year, 1906, H. Brandes of Germany, and, in 1907, Professor G. W. Pierce, of the United States, published results of investigations into the behavior of crystal detectors of various types. It was found that the Carborundum Detectors had an essentially flat voltage-current curve up to a point where a few volts were applied to the crystal. Beyond that point (it varied with different crystals), current abruptly increased with applied voltage. With a potentiometer-controlled battery connected in the detector circuit, adjusted to "bias" the crystal to this critical operating point, it was observed that the received signals were effectively rectified. Since Carborundum is close to the diamond in hardness and the crystal was literally jammed between its mounting plates under considerable pressure, the Carborundum

Detector was an extremely rugged and dependable device. Powerful nearby transmitters,heavy static and vibration had little effect on its operation.Its sensitivity was far superior to the Magnetic Detector, but considerably below that of the "catwhisker" and the light-pressure two-crystal types then being developed. Due to its dependability,however, it became very widely used on ships and in land stations.

In 1906, Dr.L. W. Austin, of the U.S.Bureau of Standards, developed a Tellurium-Aluminum detector which functioned without a local battery. In the period 1906 to 1908, Greenleaf W. Pickard, of the United States, announced the Silicon, Zincite,Bornite-Molybdenite, and Chalcopyrite Detectors. Studies made by Professor Pierce indicated that almost perfect rectification was obtainable from these detectors when contact adjustments were at their optimum. Further, the resistances of these detectors were very low in the conducting direction as compared with the Carborundum Detector, where several thousand ohms of "forward" resistance resulted in an appreciable loss in the received signal.

Following Pickard's work, a large number of minerals, mostly of a crystalline nature, appeared on the scene. Conducting solids of all kinds were tested in crystal cups and a goodly number worked, at least to some degree. Silicon and Galena, however, remained the most popular crystals as they were very sensitive and easy to find a "point" on. Some of the commercial Wireless Companies did not look upon the newfangled "catwhisker" arrangement with any great enthusiasm, particularly for use on ships. Vibration, strong signals and heavy static all contributed to "losing the point." In this period, ship operators, frequently faced with the prospect of a long trip on a ship equipped with obsolete Magnetic Detectors or, worse yet, a filings Coherer, quite wisely took a piece of "coal"(Carborundum) or their pet Crystal Detector along with them. In the rapidly growing group of amateurs, where extreme reliability was not all-important,crystal detectors were immensely popular and with an adequate antenna, a good tuner and a pair of high-resistance headphones, were capable of receiving spark signals,when the conditions were right, over many hundreds of miles.

The Crystal Detector was not only the indispensable component for the early amateur and of the commercial services,but was also the very heart of the million or so of home-made broadcast lash-ups of the early 1920's, which comprised the original base on which the present industry was founded.

The urgencies of World War I communications and the rapid advances in vacuum tube design had a tendency to relegate crystals to the status of components used in radio sets designed for small children to play with from about the middle 1920's until, perhaps 1942. Then the advent of Radar and, later, the development of computers, brought about a very remarkable rebirth of this hardy veteran.

In 1963, as in 1906,the essential design remains the same: a catwhisker on a crystal!

OLDEST RADIO TUBE IN NORTH AMERICA

A couple years ago, W2QY made a photographic show on the life of Marconi with a sound commentary by W2ICE.

A copy of the show and sound track were given to the British Marconi Co. in Chelmsford, England. The Officers of the company were delighted with the results. To express their appreciation, they sent the rare multiple tuner mentioned in an earlier Bulletin. As afurther gesture, they recently sent a Fleming Valve. On investigation, the valve appears to be an extremely early one made in 1905 !

This pre-dates ANY other radio tube that we know of in either the U.S. or Canada. There are many Fleming valves in this country but most of them have a base and were made between 1907 and 1912....The tube is now in the tube showcase at the A.W.A. 'barn' museum.....